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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,525	03/23/2004	William C. Boley	02-311	2508
719	7590	06/08/2005	EXAMINER	
CATERPILLAR INC. 100 N.E. ADAMS STREET PATENT DEPT. PEORIA, IL 616296490			MOHANTY, BIBHU R	
			ART UNIT	PAPER NUMBER
			3747	

DATE MAILED: 06/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/806,525

Applicant(s)

BOLEY ET AL.

Examiner

Bibhu Mohanty

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 11-15 and 25-29 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

In claims 11 and 25 it is unclear how the "plate member" is attached to the "parabolic end having an inside surface". It appears that the "plate member" is attached to the electrode from the specification and drawings.

The claims are examined to the extent understood.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10, 16-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Richardson US Patent 5,105,780.

Richardson has disclosed the invention as claimed showing a spark plug (10) in Figure 2 with a plug shell (12) and an orifice (38) extending from the tip of shell. The shell (12) defines a cocoon configuration (14). The spark plug of Richardson inherently has an insulator and is mounted in an engine block though the mounting though not shown in the drawings.

With regard to claims 2, 17, note that Fig. 6 shows an embodiment with a

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parabolic end.

With regard to claims 4-9, 18-23, note that the device includes a series of orifices as claimed.

With regard to claim 10 note that the device includes an electrode along the axial axis of the device.

3. Claims 1, 3-16, 18-29 are rejected under 35 U.S.C. 102(b) as being anticipated by O'Marra US Patent 1,985,192.

O'Marra has disclosed the invention as claimed showing a spark plug (8) in Figure 2 with a plug shell (14) and an orifice (12) extending from the tip of shell. The shell (14) defines a cocoon configuration. The spark plug of O'Marra has an insulator and is mounted in an engine block though the mounting though not shown in the drawings.

With regard to claims 4-9, 18-23, note that the device includes a series of orifices (12) as claimed.

With regard to claim 10 note that the device includes an electrode along the axial axis of the device.

With regards to claims 11-15 and 25-29, the device shows a circular plate with a cylindrical portion (14), a plurality of tapered tip portions (13), and serrated configurations (15).

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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bibhu Mohanty whose telephone number is 703 308-3706. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Yuen can be reached on 703 308-1946. The fax phone numbers for the organization where this application or proceeding is assigned are 703 308-7766 for regular communications and 703 308-7766 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-3310.



Bibhu Mohanty
Primary Examiner
Art Unit 3747

brm
June 6, 2005